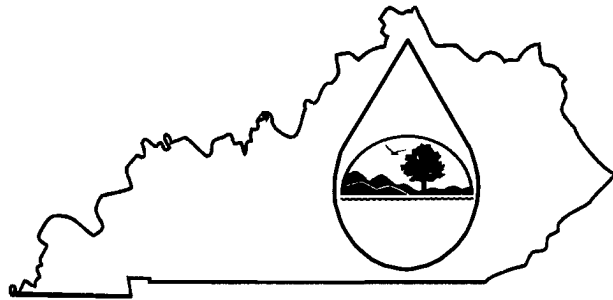


KPDES FORM 1

Alt # 82915

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT APPLICATION



This is an application to: (check one)

- ☒ Apply for a new permit.
☐ Apply for reissuance of expiring permit.
☐ Apply for a construction permit.
☐ Modify an existing permit.

Give reason for modification under Item II.A.

A complete application consists of this form and one of the following:

Form A, Form B, Form C, Form F, or Form SC

For additional information contact:

KPDES Branch (502) 564-3410

I. FACILITY LOCATION AND CONTACT INFORMATION		AGENCY USE							
A. Name of Business, Municipality, Company, Etc. Requesting Permit									
Thoroughbred Mining Company, LLC									
B. Facility Name and Location					C. Primary Mailing Address (all facility correspondence will be sent to this address). Include owner's mailing address (if different) in D.				
Facility Location Name:					Facility Contact Name and Title: Mr. <input type="checkbox"/> Ms. <input type="checkbox"/>				
Thoroughbred Mine					Dianna Tickner				
Facility Location Address (i.e. street, road, etc., not P.O. Box):					Mailing Address:				
U.S. Rt. 431 & KY 4277					701 Market Street, Suite 300				
Facility Location City, State, Zip Code:					Mailing City, State, Zip Code:				
Central City, KY					St. Louis, MO 63101				
D. Owner's name (if not the same as in part A and C):					Facility Contact Telephone Number:				
					314-342-3400				
Owner's Mailing Address:					Owner's Telephone Number (if different):				

II. FACILITY DESCRIPTION

Provide a brief description of activities, products, etc: This is an underground mining operation which will recover coal reserves for nearby use or sale. The project will include approximately 111 acres of surface disturbance to facilitate access and support areas and encompass approximately 11,000 underground acres. The project proposes to eventually recover approximately 84 million tons of reserves over a 30-year span typically employing 450 local residents. Post-mining land use is fish and wildlife habitat.

B. Standard Industrial Classification (SIC) Code and Description

Principal SIC Code & Description:	1222 - Underground Mining		
Other SIC Codes:	1221 - Bituminous Surface Mining		

III. FACILITY LOCATION

A. Attach a U.S. Geological Survey 7 1/2 minute quadrangle map for the site. (See instructions)	
B. County where facility is located: Muhlenberg	City where facility is located (if applicable): Central City
C. Body of water receiving discharge: Unnamed Tributary to Little Cypress Creek	
D. Facility Site Latitude (degrees, minutes, seconds): 37-19-15	Facility Site Longitude (degrees, minutes, seconds): 87-08-18
E. Method used to obtain latitude & longitude (see instructions): GPS, Map Interpolation	
F. Facility Dun and Bradstreet Number (DUNS #) (if applicable):	

IV. OWNER/OPERATOR INFORMATION**A. Type of Ownership:**☒ Publicly Owned ☐ Privately Owned ☐ State Owned ☐ Both Public and Private Owned ☐ Federally owned**B. Operator Contact Information (See instructions)**

Name of Treatment Plant Operator:

N/A

Telephone Number:

Operator Mailing Address (Street):

Operator Mailing Address (City, State, Zip Code):

Is the operator also the owner?

Yes ☐ No ☐

Is the operator certified? If yes, list certification class and number below.

Yes ☐ No ☐

Certification Class:

Certification Number:

V. EXISTING ENVIRONMENTAL PERMITS

Current NPDES Number:

Issue Date of Current Permit:

Expiration Date of Current Permit:

Number of Times Permit Reissued:

Date of Original Permit Issuance:

Sludge Disposal Permit Number:

Kentucky DOW Operational Permit #:

Kentucky DSMRE Permit Number(s):

889-5013

Which of the following additional environmental permit/registration categories will also apply to this facility?

CATEGORY	EXISTING PERMIT WITH NO.	PERMIT NEEDED WITH PLANNED APPLICATION DATE
Air Emission Source		
Solid or Special Waste		
Hazardous Waste - Registration or Permit		

VI. DISCHARGE MONITORING REPORTS (DMRs)

KPDES permit holders are required to submit DMRs to the Division of Water on a regular schedule (as defined by the KPDES permit). Information in this section serves to specifically identify the name and telephone number of the DMR official and the DMR mailing address (if different from the primary mailing address in Section I.C).

A. DMR Official (i.e., the department, office or individual designated as responsible for submitting DMR forms to the Division of Water):	Dianna Tickner
DMR Official Telephone Number:	314-342-3400

B. DMR Mailing Address:

- Address the Division of Water will use to mail DMR forms (if different from mailing address in Section I.C), or
- Contact address if another individual, company, laboratory, etc. completes DMRs for you; e.g., contract laboratory address.

DMR Mailing Name:	Dianna Tickner
DMR Mailing Address:	701 Market Street, Suite 300
DMR Mailing City, State, Zip Code:	St. Louis, MO 63101

VII. APPLICATION FILING FEE

KPDES regulations require that a permit applicant pay an application filing fee equal to twenty percent of the permit base fee. Please examine the base and filing fees listed below and in the Form 1 instructions and enclose a check payable to "Kentucky State Treasurer" for the appropriate amount (for permit renewals, please include the KPDES permit number on the check to ensure proper crediting). Descriptions of the base fee amounts are given in the "General Instructions."

Facility Fee Category:

Surface Mine

Filing Fee Enclosed:

\$240

VIII. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME AND OFFICIAL TITLE (type or print):

Mr. ☐ Ms. ☐ Dianna Tickner
President - Thoroughbred Mining Company, LLC

TELEPHONE NUMBER (area code and number):

314-342-3400

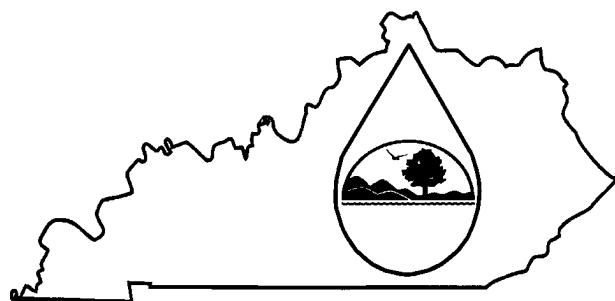
SIGNATURE

Dianna Tickner

DATE:

24 February 2009

Return completed application form and attachments to: **KPDES Branch, Division of Water, Frankfort Office Park, 14 Reilly Road, Frankfort, KY 40601. Direct questions to: KPDES Branch at (502) 564-3410.**



**KENTUCKY POLLUTANT DISCHARGE
ELIMINATION SYSTEM**

PERMIT APPLICATION

A complete application consists of this form and Form 1.
For additional information, contact KPDES Branch, (502) 564-3410.

Name of Facility: Thoroughbred Mining Company, LLC Thoroughbred Mine				County: Muhlenberg			
I. OUTFALL LOCATION				AGENCY USE			

For each outfall list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

Outfall No. (list)	LATITUDE			LONGITUDE			RECEIVING WATER (name)
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds	
SS-1	37	19	15	87	08	35	Unnamed Tributary to Little Cypress Creek
SS-2	37	19	15	87	08	25	Unnamed Tributary to Little Cypress Creek

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

- A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfall. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.
- B. For each outfall, provide a description of: (1) all operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) the average flow contributed by each operation; and (3) the treatment received by the wastewater. Continue on additional sheets if necessary.

OUTFALL NO. (list)	OPERATION(S) CONTRIBUTING FLOW		TREATMENT	
	Operation (list)	Avg/Design Flow (include units)	Description	List Codes from Table C-1
SS-1	42.9 acres watershed	Precipitation Dependant	Sedimentation	I-U
SS-2	45 acres watershed	Precipitation Dependant	Sedimentation	I-U

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES (Continued)

C. Except for storm water runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?

☐

Yes (Complete the following table.)

☒

No (Go to Section III.)

OUTFALL NUMBER	OPERATIONS CONTRIBUTING FLOW	FREQUENCY		FLOW				Duration (in days)
		Days Per Week	Months Per Year	Flow Rate (in mgd)		Total volume (specify with units)		
				Long-Term Average	Maximum Daily	Long-Term Average	Maximum Daily	
(list)	(list)	(specify average)	(specify average)					

III. MAXIMUM PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☐

Yes (Complete Item III-B) List effluent guideline category:

☒

No (Go to Section IV)

B. Are the limitations in the applicable effluent guideline expressed in terms of production (or other measures of operation)?

☐

Yes (Complete Item III-C)

☒

No (Go to Section IV)

C. If you answered "Yes" to Item III-B, list the quantity which represents the actual measurement of your maximum level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

MAXIMUM QUANTITY			Affected Outfalls (list outfall numbers)
Quantity Per Day	Units of Measure	Operation, Product, Material, Etc. (specify)	

IV. IMPROVEMENTS

A. Are you now required by any federal, state or local authority to meet any implementation schedule for the construction, upgrading, or operation of wastewater equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders and grant or loan conditions.

☐

Yes (Complete the following table)

☒

No (Go to Item IV-B)

IDENTIFICATION OF CONDITION AGREEMENT, ETC.	AFFECTED OUTFALLS		BRIEF DESCRIPTION OF PROJECT	FINAL COMPLIANCE DATE	
	No.	Source of Discharge		Required	Projected

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs (or other environmental projects which may affect your discharges) you now have under way or which you plan. Indicate whether each program is now under way or planned, and indicate your actual or planned schedules for construction.

V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding – Complete one set of tables for each outfall – Annotate the outfall number in the space provided.

NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered 5-18.

D. Use the space below to list any of the pollutants (refer to SARA Title III, Section 313) listed in Table C-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

POLLUTANT	SOURCE	POLLUTANT	SOURCE
No significant concentrations of toxic pollutants or hazardous substances are believed to be present in any outfall.			

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

A. Is any pollutant listed in Item V-C a substance or a component of a substance which you use or produce, or expect to use or produce over the next 5 years as an immediate or final product or byproduct?

☐ Yes (List all such pollutants below)

☒ No (Go to Item VI-B)

B. Are your operations such that your raw materials, processes, or products can reasonably be expected to vary so that your discharge of pollutants may during the next 5 years exceed two times the maximum values reported in Item V?

☐ Yes (Complete Item VI-C)

☒ No (Go to Item VII)

C. If you answered "Yes" to Item VI-B, explain below and describe in detail to the best of your ability at this time the sources and expected levels of such pollutants which you anticipate will be discharged from each outfall over the next 5 years. Continue on additional sheets if you need more space.

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge of or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ Yes (Identify the test(s) and describe their purposes below)

☒ No (Go to Section VIII)

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?


☒ Yes (list the name, address, and telephone number of, and pollutants analyzed by each such laboratory or firm below)

☐ No (Go to Section IX)

NAME	ADDRESS	TELEPHONE (Area code & number)	POLLUTANTS ANALYZED (list)
SGS North America, Inc.	P.O. Box 752 Henderson, KY 42419	270-827-1187	See Part V, A & B

IX. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME AND OFFICIAL TITLE (type or print): Dianna Tickner President - Thoroughbred Mining Company, LLC	TELEPHONE NUMBER (area code and number): 314-342-3400
SIGNATURE 	DATE 24 February 2009

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (use the same format) instead of completing these pages. (See instructions)

V. INTAKE AND EFFLUENT CHARACTERISTICS (Continued from page 3 of Form C)											OUTFALL NO. 001*	
Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.												
1. POLLUTANT	2. EFFLUENT						3. UNITS (specify if blank)		4. INTAKE (optional)			
	a. Maximum Daily Value		b. Maximum 30-Day Value (if available)		c. Long-Term Avg. Value (if available)		d. No. of Analyses	a. Concentration	b. Mass	a. Long-Term Avg. Value		b. No of Analyses
	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
a. Biochemical Oxygen Demand (BOD)		<2.0					1		mg/l			
b. Chemical Oxygen Demand (COD)		<0.01					1		mg/l			
c. Total Organic Carbon (TOC)		2.4					1		mg/l			
d. Total Suspended Solids (TSS)						13	6		mg/l			
e. Ammonia (as N)		15					1		mg/l			
f. Flow (in units of MGD)	VALUE		VALUE		VALUE	2	5		MGD	VALUE		
g. Temperature (winter)	VALUE	8.8	VALUE		VALUE		1		°C	VALUE		
h. Temperature (summer)	VALUE	22	VALUE		VALUE		1		°C	VALUE		
i. pH	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	6		STANDARD UNITS			

* The proposed structures have not been constructed yet. Analysis from background sampling site on Little Cypress Creek @ Latitude 37°17'43", Longitude -87°08'28"

Part B - In the MARK "X" column, place an "X" in the Believed Present column for each pollutant you know or have reason to believe is present. Place an "X" in the Believed Absent column for each pollutant you believe to be absent. If you mark the Believed Present column for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT						4. UNITS		6. INTAKE (optional)			
	a. Believed Present	b. Believed Absent	a. Maximum Daily Value		b. Maximum 30-Day Value (if available)		c. Long-Term Avg. Value (if available)		d. No. of Analyses	a. Concentration	b. Mass	a. Long-Term Avg Value		b. No. of Analyses
			(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
a. Bromide (24959-67-9)		X												
b. Bromine Total Residual			X											
c. Chloride		X												
d. Chlorine, Total Residual		X												
e. Color		X												
f. Fecal Coliform		X												
g. Fluoride (16984-48-8)		X												
h. Hardness (as CaCO ₃)	X													
i. Nitrate - Nitrite (as N)		X												
j. Nitrogen, Total Organic (as N)		X												
k. Oil and Grease	X													
l. Phosphorous (as P), Total 7723-14-0		X												
m. Radioactivity														
(1) Alpha, Total		X												
(2) Beta, Total		X												
(3) Radium Total		X												
(4) Radium, 226, Total		X												

Part B - Continued

1. POLLUTANT And CAS NO. (if available)	2. MARK "X"		3. EFFLUENT								4. UNITS		5. INTAKE (optional)		
	a. Believed Present	b. Believed Absent	a. Maximum Daily Value		b. Maximum 30-Day Value (if available)		c. Long-Term Avg. Value (if available)		d. No. of Analyses	a. Concentration	b. Mass	a.		b. No. of Analyses	
			(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass		
n. Sulfate (as SO ₄) (14808-79-8)	X							1522		6		mg/l			
o. Sulfide (as S)															
p. Sulfite (as SO ₃) (14286-46-3)		X													
q. Surfactants		X													
r. Aluminum, Total (7429-90)		X													
s. Barium, Total (7440-39-3)		X													
t. Boron, Total (7440-42-8)		X													
u. Cobalt, Total (7440-48-4)		X													
v. Iron, Total (7439-89-6)	X							0.40		6		mg/l			
w. Magnesium Total (7439-96-4)		X										mg/l			
x. Molybdenum Total (7439-98-7)		X													
y. Manganese, Total (7439-96-6)	X							0.66		6		mg/l			
z. Tin, Total (7440-31-5)		X													
aa. Titanium, Total (7440-32-6)		X													

Part C – If you are a primary industry and this outfall contains process wastewater, refer to Table C-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark “X” in the Testing Required column for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark this column (secondary industries, nonprocess wastewater outfalls, and non-required GC/MS fractions), mark “X” in the Believed Present column for each pollutant you know or have reason to believe is present. Mark “X” in the Believed Absent column for each pollutant you believe to be absent. If you mark either the Testing Required or Believed Present columns for any pollutant, you must provide the result of at least one analysis for that pollutant. Note that there are seven pages to this part, please review each carefully. Complete one table (all seven pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT And CAS NO. (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. Testing Required	a. Believed Present	b. Believed Absent	a. Maximum Daily Value		b. Maximum 30-Day Value (if available)		c. Long-Term Avg. Value (if available)		d. No. of Analyses	a. Concentration	b. Mass	a. Long-Term Avg Value		b. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
METALS, CYANIDE AND TOTAL PHENOLS															
1M. Antimony Total (7440-36-0)	X									1	mg/l				
2M. Arsenic, Total (7440-38-2)	X									1	mg/l				
3M. Beryllium Total (7440-41-7)	X									1	mg/l				
4M. Cadmium Total (7440-43-9)	X									1	mg/l				
5M. Chromium Total (7440-43-9)	X									1	mg/l				
6M. Copper Total (7550-50-8)	X									1	mg/l				
7M. Lead Total (7439-92-1)	X									1	mg/l				
8M. Mercury Total (7439-97-6)	X									1	mg/l				
9M. Nickel, Total (7440-02-0)	X									1	mg/l				
10M. Selenium, Total (7782-49-2)	X									1	mg/l				
11M. Silver, Total (7440-28-0)	X									1	mg/l				

1. POLLUTANT And CAS NO. (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)				
	a. Testing Required	a. Believed Present	b. Believed Absent	a. Maximum Daily Value		b. Maximum 30-Day Value (if available)		c. Long-Term Avg. Value (if available)		d. No. of Analyses	a. Concentration	b. Mass	a. Long-Term Avg Value		b. No. of Analyses	
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass		
METALS, CYANIDE AND TOTAL PHENOLS (Continued)																
12M. Thallium, Total (7440-28-0)	X									1	mg/l					
13M. Zinc, Total (7440-66-6)	X									1	mg/l					
14M. Cyanide, Total (57-12-5)	X									1	mg/l					
15M. Phenols, Total	X									1	mg/l					
DIOXIN																
2,3,7,8 Tetra-chlorodibenzo, p, Dioxin (1784-01-6)				DESCRIBE RESULTS:												
GC/MS FRACTION - VOLATILE COMPOUNDS																
1V. Acrolein (107-02-8)			X													
2V. Acrylonitrile (107-13-1)			X													
3V. Benzene (71-43-2)			X													
5V. Bromoform (75-25-2)			X													
6V. Carbon Tetrachloride (56-23-5)			X													
7V. Chloro-benzene (108-90-7)			X													
8V. Chlorodibromomethane (124-48-1)			X													

Part C – Continued

1. POLLUTANT And CAS NO. (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)		
	a. Testing Required	a. Believed Present	b. Believed Absent	a. Maximum Daily Value		b. Maximum 30-Day Value (if available)		c. Long-Term Avg. Value (if available)		d. No. of Analyses	a. Concentration	b. Mass	a. Long-Term Avg Value	b. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass
9V. Chloroethane (74-00-3)			X											
10V. 2-Chloro-ethylvinyl Ether (110-75-8)			X											
11V. Chloroform (67-66-3)			X											
12V. Dichloro-bromomethane (75-71-8)			X											
14V. 1,1-Dichloroethane (75-34-3)			X											
15V. 1,2-Dichloroethane (107-06-2)			X											
16V. 1,1-Dichloroethylene (75-35-4)			X											
17V. 1,2-Di-chloropropane (78-87-5)			X											
18V. 1,3-Dichloropro-pylene (452-75-6)			X											
19V. Ethyl-benzene (100-41-4)			X											
20V. Methyl Bromide (74-83-9)			X											

Part C – Continued

1. POLLUTANT And CAS NO. (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)		
	a. Testing Required	a. Believed Present	b. Believed Absent	a.		b. Maximum 30-Day Value (if available)	(1) Concentration	(2) Mass	d. No. of Analyses	a.	b. Mass	a.		b. No. of Analyses
				Maximum Daily Value (1)	(2) Value							Long-Term Avg. Value (1) Concentration	(2) Mass	
21V. Methyl Chloride (74-87-3)			X											
22V. Methylene Chloride (75-00-2)			X											
23V. 1,1,2,2- Tetrachloro- ethane (79-34-5)			X											
24V. Tetrachloro- ethylene (127-18-4)			X											
25V. Toluene (108-88-3)			X											
26V. 1,2-Trans- Dichloro- ethylene (156-60-5)			X											
27V. 1,1,1-Trifluoro- chloroethane (71-55-6)			X											
28V. 1,1,2-Trifluoro- chloroethane (79-00-5)			X											
29V. Trichloro- ethylene (79-01-6)			X											
30V. Vinyl Chloride (75-01-4)			X											

Part C – Continued

1. POLLUTANT And CAS NO. (if available)	2. MARK "X"			3. EFFLUENT								4. UNITS		5. INTAKE (optional)		
	a. Testing Required	a. Believed Present	b. Believed Absent	a. Maximum Daily Value		b. Maximum 30-Day Value (if available)		c. Long-Term Avg. Value (if available)		d. No. of Analyses	a. Concentration	b. Mass	a. Long-Term Avg Value		b. No. of Analyses	
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass		
GC/MS FRACTION - ACID COMPOUNDS																
1A. 2-Chloro-phenol (95-57-8)			X													
2A. 2,4-Dichloro- Orophenol (120-83-2)			X													
3A. 2,4-Dimeth- ylphenol (105-67-9)			X													
4A. 4,6-Dinitro- o-cresol (534-52-1)			X													
5A. 2,4-Dinitro- phenol (51-28-5)			X													
6A. 2-Nitro- phenol (88-75-5)			X													
7A. 4-Nitro- phenol (100-02-7)			X													
8A. P-chloro-m- cresol (59-50-7)			X													
9A. Pentachloro- phenol (87-88-5)			X													
10A. Phenol (108-05-2)			X													
11A. 2,4,6-Tri- chlorophenol (88-06-2)			X													
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS																
1B. Acena- phthene (83-32-9)			X													

Part C – Continued

1. POLLUTANT And CAS NO. (if available)	2. MARK "X"			3. EFFLUENT								4. UNITS		5. INTAKE (optional)			
	a. Testing Required	a. Believed Present	b. Believed Absent	a. Maximum Daily Value		b. Maximum 30-Day Value (if available)		c. Long-Term Avg. Value (if available)		d. No. of Analyses	a. Concentration	b. Mass	a. Long-Term Avg Value		b. No. of Analyses		
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass			
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (Continued)																	
2B. Acena- phytene (208-96-8)			X														
3B. Anthra- cene (120-12-7)			X														
4B. Benzidine (92-87-5)			X														
5B. Benzo(a)- anthracene (56-55-3)			X														
6B. Benzo(a)- pyrene (50-32-8)			X														
7B. 3,4-Benzo- fluoranthene (205-99-2)			X														
8B. Benzo(ghi) perylene (191-24-2)			X														
9B. Benzo(k)- fluoranthene (207-08-9)			X														
10B. Bis(2- chlor- oethoxy)- methane (111-91-1)			X														
11B. Bis (2-chlor- oisopropyl)- Ether			X														
12B. Bis (2-ethyl- hexyl)- phthalate (117-81-7)			X														

Part C – Continued

1. POLLUTANT And CAS NO. (if available)	2. MARK "X"			3. EFFLUENT								4. UNITS		5. INTAKE (optional)		
	a. Testing Required	a. Believed Present	b. Believed Absent	a. Maximum Daily Value		b. Maximum 30-Day Value (if available)		c. Long-Term Avg. Value (if available)		d. No. of Analyses	a. Concentration	b. Mass	a. Long-Term Avg Value		b. No. of Analyses	
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass		
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (Continued)																
13B. 4-Bromo-phenyl Phenyl ether (101-55-3)			X													
14B. Butyl-benzyl phthalate (85-68-7)			X													
15B. 2-Chloro-naphthalene (7005-72-3)			X													
16B. 4-Chloro-phenyl phenyl ether (7005-72-3)			X													
17B. Chrysene (218-01-9)			X													
18B. Dibenzo-(a,h) Anthracene (53-70-3)			X													
19B. 1,2-Dichloro-benzene (95-50-1)			X													
20B. 1,3-Dichloro-Benzene (541-73-1)			X													
21B. 1,4-Dichloro-benzene (106-46-7)			X													
22B. 3,3-Dichloro-benzidine (91-94-1)			X													
23B. Diethyl Phthalate (84-66-2)			X													

Part C - Continued

1. POLLUTANT And CAS NO. (if available)	2. MARK "X"			3. EFFLUENT								4. UNITS		5. INTAKE (optional)		
	a. Testing Required	a. Believed Present	b. Believed Absent	a. Maximum Daily Value		b. Maximum 30-Day Value (if available)		c. Long-Term Avg. Value (if available)		d. No. of Analyses	a. Concentration	b. Mass	a. Long-Term Avg. Value		b. No. of Analyses	
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass		
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (Continued)																
24B. Dimethyl Phthalate (131-11-3)			X													
25B. Di-N-butyl Phthalate (84-74-2)			X													
26B. 2,4-Dinitro-toluene (121-14-2)			X													
27B. 2,6-Dinitro-toluene (606-20-2)			X													
28B. Di-n-octyl Phthalate (117-84-0)			X													
29B. 1,2-diphenyl-hydrazine (as azobenzene) (122-66-7)			X													
30B. Fluoranthene (208-44-0)			X													
31B. Fluorene (86-73-7)			X													
32B. Hexachloro-benzene (118-71-1)			X													
33B. Hexachloro-butadiene (87-68-3)			X													
34B. Hexachloro-cyclopentadiene (77-47-4)			X													

Part C – Continued

1. POLLUTANT And CAS NO. (if available)	2. MARK "X"			3. EFFLUENT								4. UNITS		5. INTAKE (optional)			
	a. Testing Required	a. Believed Present	b. Believed Absent	a. Maximum Daily Value		b. Maximum 30-Day Value (if available)		c. Long-Term Avg. Value (if available)		d. No. of Analyses	a. Concentration	b. Mass	a. Long-Term Avg Value		b. No. of Analyses		
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass			
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (Continued)																	
35B. Hexachloroethane (67-72-1)			X														
36B. Indeno-(1,2,3-oc)-Pyrene (193-39-5)			X														
37B. Isophorone (78-59-1)			X														
38B. Naphthalene (91-20-3)			X														
39B. Nitrobenzene (98-95-3)			X														
40B. N-Nitrosodimethylamine (62-75-9)			X														
41B. N-nitrosodi-n-propylamine (621-64-7)			X														
42B. N-nitrosodiphenylamine (86-30-6)			X														
43B. Phenanthrene (85-01-8)			X														
44B. Pyrene (129-00-0)			X														
45B. 1,2,4 Trichlorobenzene (120-82-1)			X														

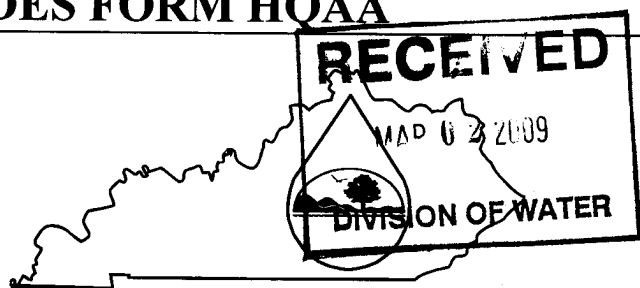
Part C – Continued

1. POLLUTANT And CAS NO. (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. Testing Required	a. Believed Present	b. Believed Absent	a. Maximum Daily Value		b. Maximum 30-Day Value (if available)		c. Long-Term Avg. Value (if available)		d. No. of Analyses	a. Concentration	b. Mass	a. Long-Term Avg. Value		b. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (58-89-9)			X												
4P. gamma-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α- Endosulfan (115-29-7)			X												
12P. β- Endosulfan (115-29-7)															
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												

Part C - Continued

1. POLLUTANT And CAS NO. (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. Testing Required	a. Believed Present	b. Believed Absent	a. Maximum Daily Value		b. Maximum 30-Day Value (if available)		c. Long-Term Avg. Value (if available)		d. No. of Analyses	a. Concentration	b. Mass	a. Long-Term Avg Value		b. No. of Analyses
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
GC/MS FRACTION – PESTICIDES															
15P. Endrin Aldehyde (7421-93-4)			X												
16P Heptachlor (76-44-8)			X												
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

KPDES FORM HQAA



Kentucky Pollutant Discharge Elimination System (KPDES)

High Quality Water Alternative Analysis

The Antidegradation Implementation Procedures outlined in 401 KAR 5:030, Section 1(3)(b)5 allows an applicant who does not accept the effluent limitations required by subparagraphs 2 and 3 of 5:030, Section 1(2)(b) to demonstrate to the satisfaction of the Environmental and Public Protection Cabinet that no technologically or economically feasible alternatives exist and that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the water is located. The approval of a POTW's regional facility plan pursuant to 401 KAR 5:006 shall demonstrate compliance with the alternatives analysis and socioeconomic demonstration for a regional facility. This demonstration shall also include this completed form and copies of any engineering reports, economic feasibility studies, or other supporting documentation

I. Permit Information

Facility Name:	Thoroughbred Mining Company, LLC Thoroughbred Mine	KPDES NO.:	889-5013 (KDNR Permit No.)
Address:	701 Market Street Suite	County:	Muhlenberg
City, State, Zip Code:	St. Louis, MO 63101	Receiving Water Name:	Unnamed tributary of Little Cypress Creek

II. Alternatives Analysis - For each alternative below, discuss what options were considered and state why these options were not considered feasible.

1. Discharge to other treatment facilities. Indicate which treatment works have been considered and provide the reasons why discharge to these works is not feasible.

The nearest municipal sewage treatment facility is located at Central City. This plant is located approximately 2.4 miles from this project. This plant was not designed for or capable of treating either the type or volumes of water involved with this project. This option would almost certainly create influx problems for the Central City plant resulting in an "overload" to their system presenting the possibility that by-passes would occur leading to discharges of untreated municipal waste which would create a serious health threat.

Routing water to this plant would require a minimum of 12,540 feet of carrier lines, a network of lift and pump stations and obtaining extensive rights of way and easements. Conservatively estimating line at \$22/foot, a minimum of 2 lift stations at \$75,000, ignoring other stated requirements, the minimum cost of this option would greatly exceed \$500,000 dollars.

Transporting this volume of water by self-contained disposal trucks would be excessively expensive and impractical. Based on a required 25 year, 24 hour storm event calculation, the possible peak discharge from this project could exceed 1,112 million gallons per day. Rates quoted from Somerset Environmental in Somerset, KY indicated charges of \$65/hour (gate to gate)/3,000 gallon pick-up of non-hazardous wastewater and a \$0.49/gallon disposal fee.

2. **Use of other discharge locations.** Indicate what other discharge locations have been evaluated and the reasons why these locations are not feasible.

Green River was considered as the only other available discharge location. To route water directly to Green River would require approximately 6,203 feet of line, several lift stations, numerous easements, a containment structure and would require boring under Hwy 431. Excavation, installation and involved constructions would create a greater environmental disturbance than the proposed discharge location with same end results of discharging into a comparable quality water resource. Lift stations are site specific and vary greatly but are specific to topography and substrate composition:

Estimation of Costs of Lift Stations

***Table 1
Pressure (LPS)**

<i>Pumping Stations (No. per mile by topography)</i>	<i>Flat</i>	<i>Rolling</i>	<i>Steep</i>
200 gpm P.S. \$54,000	0	0	2
100 gpm P.S. \$43,200	0	1	2
Composite Cost	\$0	\$43,200	\$194,400

Gravity

<i>Pumping Stations (No. per mile by topography)</i>	<i>Flat</i>	<i>Rolling</i>	<i>Steep</i>
200 gpm P.S. \$54,000	1	0	2
100 gpm P.S. \$43,200	2	1	2
Composite Cost	\$140,400	\$43,200	\$194,400

A Mathematical Model For Estimating Sewer Costs"

by George A. Earle, III, P.E. and R. Paul Farrell Jr., P.E., Environment One Corporation

The cost of this option would easily exceed \$1 million dollars.

The placement and design of current discharge locations are engineered to be the most effective and the least invasive.

II. Alternatives Analysis - continued

3. **Water reuse or recycle.** Provide information about opportunities for water reuse or recycle at this facility. If water reuse or recycle is not a feasible alternative at this facility, please indicate the reasons why.

The drainage area is 87.91 acres* resulting in a peak possible discharge of 136,265 gpm. In order to reuse or recycle this water, a central collection system would have to be constructed which would cost in excess of \$1 million dollars. This would impede the profitability of this project since the water cannot be used at this site.

*Sediment Structure No. 1 is approximately 42.9 acres
Sediment Structure No. 2 is approximately 45.0 acres

Using water from this project for on site dust suppression and watering of reclaimed areas was considered but the absorption rate does not support land application.

4. **Alternative process or treatment options.** Indicate what process or treatment options have been evaluated and provide the reasons they were not considered feasible.

As an alternative treatment option, sand filtration was evaluated but deemed not applicable. Sand filtration is used primarily as a pre-treatment to remove microbial contaminants, not particulate matter, in storm run-off from smaller urban drainage areas. The high sediment volumes involved in a storm event could clog the filtration unit rendering it ineffective. Sand filters do not control storm water and do not prevent downstream bank and channel erosion as proposed structures are designed to do. Also, the operational efficiency of these units in colder climates and freezing conditions has not been thoroughly evaluated. Studies indicate a treatment cost of **\$12 per cubic foot volume*** for this type of treatment

Using only silt fences and straw bales for sediment control was considered as per BMP's but were determined to be inadequate independent of other measures.

Other mining methods (i.e.: processes) were considered. Mining methods are dictated by geological factors including elevation and thickness of the coal seam and the amount of overburden covering the reserves. This project is for a surface disturbance to provide a "face-up" for a deep mine. This is the only feasible way to access these reserves.

Constructing an on-site storm water treatment facility was considered. The volume of discharge and the lift required make this an unfeasible option. Consultation with Beckman Environmental in Cincinnati, OH, a company that specializes in these types of constructions, revealed a recent bid on a project in Columbus, OH involving a lift of 30 feet, a peak discharge of 3,800 gpm (compared with 136,265 gpm for this project), a grit removal station, and influent and effluent lines at \$2.5 million dollars. Using this demonstration, treatment would exceed **\$650 per gallon volume.**

Comparatively, an industry estimate for construction of a medium capacity embankment pond is approximately **\$40,000** while construction of a dug out bench pond is estimated at roughly **\$7,500.**

* *The Cost and Effectiveness of Stormwater Management Practices, Minnesota Department of Transportation, June 2005*

II. Alternatives Analysis - continued

5. **On-site or subsurface disposal options.** Discuss the potential for on-site or subsurface disposal. If these options are not feasible, then please indicate the reasons why.

On-site disposal was considered as a disposal option. The construction of an on-site wastewater treatment type plant would require a facility engineered to handle over 136,265 gpm during a 24-hour, 25-year storm event.* Construction cost for package plants are engineered to specific location, load and other conditions but with a required collection system would be expected to exceed \$1 million dollars. These plants require a continual power source, daily maintenance, periodic repair and leave a large footprint. After completion of this project, the plant would either have to be removed or abandoned to unsightly, dangerous rubbish.

**The Rational equation is the simplest method to determine peak discharge from drainage basin runoff. It is not as sophisticated as the SCS TR-55 method, but is the most common method used for sizing sewer systems.*

The installation of a sanitary septic system, i.e., septic tank was evaluated but is not an applicable option. Building a system **large enough** to handle the **volume of water** would be impractical. Septic systems are design to degrade organic waste and biodegradable material over time by anaerobic digestion. While the source water would most likely contribute some organic material and some needed bacteria, this would be inadequate to decompose the sediment and would work essentially the same as a sediment structure.

The possibility of using old mined out underground works was considered as a disposal option but was deemed as potentially dangerous due to the uncertainty of the remaining structures and the possibility of a "blow-out" or leakage could occur causing both a public safety and environmental threat.

6. **Evaluation of any other alternatives to lowering water quality.** Describe any other alternatives that were evaluated and provide the reasons why these alternatives were not feasible.

Foregoing the entire operation as an alternate to lowering water quality was evaluated. This action would have negative economical impacts as the 450 anticipated permanent jobs directly related to this endeavor and the resulting \$21.7 million dollars in collective annual salaries, other indirectly related jobs and revenues including severance tax estimated at \$2.7 million annually would have negative economic consequences..

Accepting more stringent discharge limitations than allowed by regulation was discussed but because this would require more aggressive chemical treatment, the real potential for an environmental or personnel accident exist. The costs are extreme and are dependent upon water quality. Based on information from OSMRE, the cost for chemical treatment of a mildly acidic mine drainage with an average flow of 100 gpm using caustic soda was \$94,784. With a possible flow of over 392 mgpd during a rainfall event, the cost of this option could jeopardize the economic effectiveness of this entire project.

III. Socioeconomic Demonstration

1. State the positive and beneficial effects of this facility on the existing environment or a public health problem.

Some of the watersheds to be impacted by this project are of a poor nature due to road construction, previous mining, associated haul roads, belt lines and other mining associated activities. Once mitigation begins, the stream banks will be stabilized to prevent erosion, species indigenous to the area will be planted to establish an adequate riparian zone and stream channels will be rehabilitated to curb sedimentation. After reclamation, the area will be converted to a wildlife management area with some pastureland. This will provide a healthier habitat for aquatic species and wildlife leading to a more balanced ecosystem.

2. Describe this facility's effect on the employment of the area

The portal area is located near Central City, population 5,787. However the mine and coal to substitute natural gas plant are considered to be The Thoroughbred Community. The Thoroughbred Community consists of the following Kentucky Counties: Butler, Caldwell, Christian, Crittenden, Daviess, Hancock, Henderson, Hopkins, Logan, Lyon, McLean, Muhlenberg, Ohio, Todd, Trigg, Union, and Webster.

This project is expected to result in 450 permanent positions with more than 80% being residents of the Thoroughbred Community. Additionally, as a result of the coal to substitute natural gas plant and the mine operations activity, an additional 633 indirect and induced job-years annually are estimated to be generated.

Unemployment Rates-Muhlenberg			
Year	U.S.	KY	Muhlenberg Co.
1990	6.3	5.9	8.7
1991	7.3	7.5	12.5
1992	7.4	6.9	12.5
1993	6.5	6.2	11
1994	5.5	5.4	9.5
1995	5.6	5.4	8.6
1996	5.4	5.6	8.5
1997	4.7	5.4	8.8
1998	4.3	4.6	7.4
1999	4.2	4.5	8.3
2000	4	4.1	6.5
2001	4.7	5.4	10.1
2002	5.8	5.6	8.6
2003	6	6.2	8.7
2004	5.5	5.3	7.3

3. Describe how this facility will increase or avoid the decrease of area employment.

This project will increase and avoid the decrease of the area's employment with the addition of the permanent direct jobs that will be added and with the indirect jobs created by the project. In December 2008, Muhlenberg County's unemployment rate was 8.0% and there were 1,059 people unemployed and seeking employment. The direct and indirect jobs provided by this project will reduce this number. This project is expected to have a 30-year life. The jobs created by this project are long term and will impact the local employment for many years. Coal could supply the coal to substitute natural gas plant or third party sales.

4. Describe the industrial or commercial benefits to the community, including the creation of jobs, the raising of additional revenues, the creation of new or additional tax bases.

Total expenditures related to operations of the mine are expected to result in an estimated \$31 million within the Commonwealth, \$24 million in the 17-county Thoroughbred Community and \$9 million in Muhlenberg County. Of the \$31 million spent within the Commonwealth, approximately \$11 million annually will be spent on locally provided goods and services within Kentucky including an estimated \$6 million annually to be spent within the 17-county Thoroughbred Community and \$4 million within Muhlenberg County. Coal is taxed at 4.5% per ton of which 50% is slated to be returned to the county of origin. Based on the projections of 66 million tons recovery, this project will contribute approximately \$89 million in severance taxes during the life of the project. These monies are used for local education, health services, judicial services and infrastructure projects.

5. Describe any other economic or social benefits to the community.

Direct and Indirect Economic Impacts on the 17-County Thoroughbred Community 2002-2035

(Millions, except Job-Years)

	Direct	Indirect & Induced	Total	Multiplier
Spending	\$1,917	\$707	\$2,624	1.37
Job-years	15,558	22,499	38,057	2.45
Income	\$1,049	\$577	\$1,627	1.55

Direct and Indirect Economic Impacts on Muhlenberg County 2002-2035

(Millions, except Job-Years)

	Direct	Indirect & Induced	Total	Multiplier
Spending	\$575	\$129	\$704	1.22
Job-years	4,927	4,986	9,914	2.01
Income	\$349	\$110	\$460	1.32

Every dollar the project pays in wages will produce an estimated additional 74 cents of income in the Commonwealth of Kentucky including 55 cents in the 17-county Thoroughbred Community and 32 cents in Muhlenberg County.

III. Socioeconomic Demonstration - continued

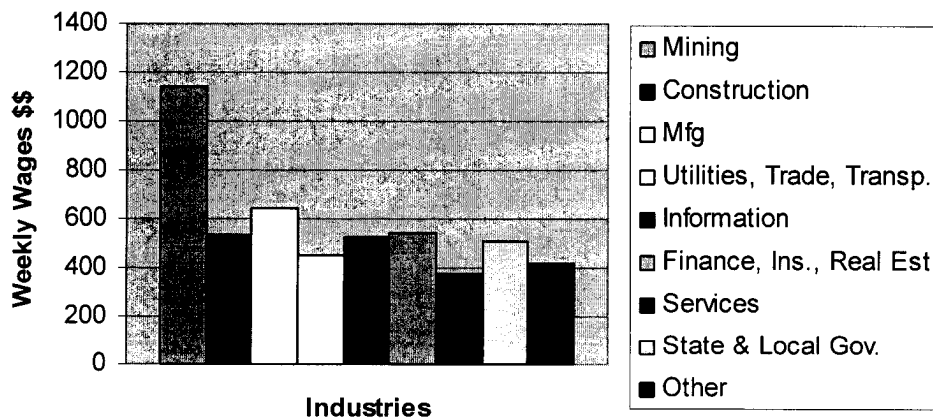
- | | <u>Yes</u> | <u>No</u> |
|--|-------------------------------------|-------------------------------------|
| 6. Will this project be likely to change median household income in the county? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 7. Will this project likely change the market value of taxable property in the county? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 8. Will this project increase or decrease revenues in the county? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 9. Will any public buildings be affected by this system? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10. How many households will be <i>economically</i> or <i>socially</i> impacted by this project? | | |

1050

11. How will those households be *economically* or *socially* impacted? (For example, through creation of jobs, educational opportunities, or other social or economic benefits.)

This project will permanently (+30 Years) employ approximately 450 residents providing jobs and benefits estimated at approximately \$80,000/year. According to data gathered by KY Coal Facts, the average weekly earnings for a western Kentucky miner in 2004 was \$1,142.81. U.S. Census Bureau shows that in 2000, less than 10% of residents in this 17 county area had Bachelor's degrees or higher. In 2005, the median income for a 4 year college graduate was \$54,800. The wages paid by this project are not seen in other industries in the seventeen county area:

Thoroughbred Community Weekly Wages 2004



Included in this package are wages, health and dental insurances as well as disability and retirement compensation. Indirect employment is expected to provide an additional 600+ jobs in mining related industries. These indirect jobs are expected to pay approximately \$26,000/year. This is an annual employment salary of over \$51 million dollars. This influx of monies affords these households the ability to maintain or enhance their economic status and provides opportunities for improved social welfare afforded by these earnings.

- | | |
|---|--|
| | <u>Yes</u> <u>No</u> |
| 12. Does this project replace any other methods of sewage treatment to existing facilities?
(If so describe how) | <input type="checkbox"/> <input checked="" type="checkbox"/> |

The residents in this area are served by a municipal sewage treatment facility.

- | | |
|--|--|
| | <u>Yes</u> <u>No</u> |
| 13. Does this project treat any existing sources of pollution more effectively?
(If so describe how.) | <input checked="" type="checkbox"/> <input type="checkbox"/> |

An area along Nelson Creek, a straight cut agricultural drainage ditch, will be rehabilitated including the development of 5 acres into a hardwood bottomland forest and wetland areas. This rehabilitation will reduce erosion of the stream and siltation of the receiving Green River reducing the potential for introduction of herbicides, pesticides and fertilizers into Green River. The development of these features will directly improve the surrounding ecosystem.

III. Socioeconomic Demonstration - continued

Yes No
☒ ☐

14. Does this project eliminate any other sources of discharge or pollutants?
(If so describe how.)

The project area contains access roads and previously disturbed ground that contribute sediment to downstream waters. These areas will undergo improved drainage and planting of more suitable vegetation.

15. How will the increase in production levels positively affect the socioeconomic condition of the area?

This project will remove approximately 66 million tons of coal over approximately 35 years that would not have been recovered or made available to the market otherwise. This is a long term commitment to the Thoroughbred community and its residents. It will result in continued employment for approximately 450 people, aid in development and maintenance of indirect jobs and will contribute \$5.4 million dollars annually in tax revenues. These monies are used for local education, health services, judicial services and infrastructure projects which service the people of this area.

16. How will the increase in operational efficiency positively affect the socioeconomic condition of the area?

The mining techniques involved with this project (face-up for a deep mine recovery) provide the only economical means of recovering these coal reserves. Reclamation of this project area will result in an area designated as a wildlife management area. This enhancement will provide an area that is both aesthetically pleasing and environmentally function.

The increase in operational efficiency will in turn increase the production levels leading to increased new employment opportunities in the area, maintenance of existing employment, development and maintenance of indirect jobs and increase in the amount of personal and severance tax the area receives.

IV Certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Title:	Dianna Tickner President - Thoroughbred Mining Company, LLC	Telephone No.:	314-342-3400
Signature:	<i>Dianna Tickner</i>	Date:	<i>20 February 2009</i>

AT# 82915



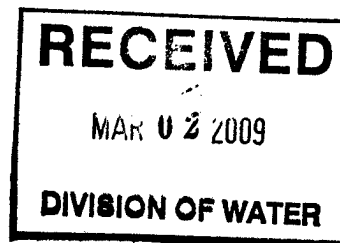
ENGINEERING CONSULTING SERVICES, INC.

CIVIL ■ ENVIRONMENTAL ■ MINING ■ SAFETY
1005 S. MAIN, STE. 102
CORBIN, KY 40701



February 27, 2009

K.P.D.E.S.
Division of Water
200 Fair Oaks Lane
Frankfort, KY 40601



Please find enclosed required documentation for application for an Individual K.P.D.E.S. permit for Thoroughbred Mining, LLC.

The proposed project, located in Muhlenberg County, is a surface disturbance for an underground mine face-up. Two sediment structures and discharge locations are proposed as depicted on the attached map.

Water sample analyses submitted on KPDES Form C are from background analysis collected as required for DNR permitting. As neither sediment structure has been constructed, Thoroughbred Mining, LLC proposes sampling for the other required parameters within one year of commencement of this project. This sampling will more definitively identify influences related to the mining operation.

Previously, Thoroughbred Mining, LLC had sought coverage under the "General Permit for Coal Mining Activities in the Commonwealth of Kentucky". Because of time constraints and the uncertainty of when the General Permits is going to be re-issued, Thoroughbred Mining, LLC is submitting this application for an Individual Discharge Permit in hopes of expediting the permitting process. Should the General Permit be approved shortly, then Thoroughbred Mining would seek coverage under whichever options affords them the most expeditious coverage.

Celebrating 25 Years of Service

LEXINGTON, KY
859-233-2103 PHONE
859-259-3394 FAX

CORBIN, KY
606-526-6396 PHONE
606-526-6398 FAX

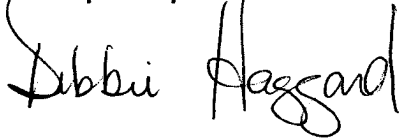
OWENSBORO, KY
270-683-8030 PHONE
270-683-8031 FAX

PIKEVILLE, KY
606-432-2443 PHONE
606-432-2486 FAX

WILLIAMSON, WV
304-235-1885 PHONE
304-235-1887 FAX

If you have questions or need additional information, please contact me at (606) 526-6396 or by email: dhaggard@engrservices.com.

Your prompt review of this application is appreciated.

A handwritten signature in black ink that reads "Debbie Haggard". The signature is written in a cursive style with a large, stylized 'D' and 'H'.

Debbie Haggard, Biologist

Enclosures: KPDES Form 1
KPDES Form C
HQAA
Watershed Map
Quad Map
Application Fee (\$240)



ENGINEERING CONSULTANTS, INC.
1000 N. 10TH ST., SUITE 100
EVANSTON, ILL. 60201
TEL: (708) 491-1100
FAX: (708) 491-1101

MINING & RECLAMATION PLAN &
SURFACE PERM - ON, Y
ENVIRONMENTAL RESOURCES INFORMATION MAP

DATE: 10/1/98
BY: J. L. HARRIS
CHECKED: J. L. HARRIS
APPROVED: J. L. HARRIS

LEGEND

SYMBOL	DESCRIPTION
[Symbol]	Proposed Mine
[Symbol]	Proposed Reclamation
[Symbol]	Proposed Surface Permits
[Symbol]	Proposed Environmental Resources
[Symbol]	Proposed Information Map

GRAPHIC SCALE 1" = 200'



TOPSOIL

BELT ROAD #1

1-1

2-2

2-3

DD2A

2-1

2-3

TEMP BASIN

SS-2

DD1A

DD1C

DD1B

KY-189

FERGUSON LN

1" = 200'



HERRICK CONSULTING SERVICES, INC.
LANSING, MICHIGAN

Project: Construction of a new water treatment facility for the City of Central City, Michigan. The project includes the construction of a new water treatment facility, including a new water treatment plant, a new water storage tank, and a new water distribution system. The project is located in the City of Central City, Michigan.

Central City, Michigan
1" = 200' | 0' 0" 200' 400' 600' 800' 1000'
STANDARD MAP